IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF	)
	) Examiner: Joseph E. Avellino
Kermarec, et al.	)
	) Group Art Unit: 2143
SERIAL NO.: 10/054,207	)
	) Customer Number: 23644
FILED: January 22, 2002	)
	) Docket No. 920569-905833
FOR: Methods of Establishing Virtual Circuits	)
and of Providing a Virtual Private	)
Network Service Through a Shared	)
Network and Provider Edge Device	)
for Such	)

RESPONSE TO FINAL OFFICE ACTION DATED NOVEMBER 20, 2007

Honorable Director of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This response is being filed in view of the Examiner's further Office Action of November 20, 2007 regarding this application. No amendments are being offered, as will be explained below, because no amendments are believed to be necessary.

The Examiner now rejects claim 20 under 35 U.S.C. 103(a) as being unpatentable over Jain (US 6,765,914) in view of Walker (US 6,701,375) and in further view of Goodwin (US 2002/0124107).

Finally, after a quite significant number of office actions and responses, the Examiner concludes that neither Jain nor Walker disclose the feature of claim 20 of the present application : "learning a correspondence between said CE interface and each VLAN identifier included in said at least one tagged frame". The Examiner now argues, however, that such feature is taught by Goodwin.

Before considering Goodwin, it is noted that this is not the only feature absent from the teachings of both Jain and Walker.

As clearly explained in Applicant's previous responses, in addition to the above-mentioned feature, the following features are also absent from Jain and Walker :

(i)   establishing a virtual circuit in a shared network infrastructures, <u>in response to</u> the detection of whether a pair of CE interfaces allocated to said VPN and belonging to two PE devices correspond to a common VLAN identifier ;

(ii)   establishing a virtual circuit in a shared network infrastructure, for forwarding frames including said common VLAN identifier.

Indeed, with respect to (i), in Jain, there is no need to detect whether a pair of host-switch interfaces belonging to two different switches would correspond to a common VLAN ID so as to establish a virtual circuit in the shared network infrastructure between two switches. On the contrary, as soon as the manual configuration step of Jain is completed, a packet sent by a sending host can be routed to a destination host based on the MAC address of the destination host. If the destination MAC address (and not the VLAN ID as mentioned by the Examiner) does not belong to a local switch port, the packet is forwarded to the switch's bus connecting port, then to the bus and it is retrieved by all other switches before being accepted by the destined switch based on the destination MAC address (steps 710, 730, 735, 740 and 750). As a result, Jain does not disclose establishing a connection, <u>in response to</u> a detection that is absent from its teaching.

Jain does not disclose (ii), either. Jain teaches only a connection, and not a virtual circuit in a shared network infrastructure, as acknowledged by the Examiner.

With regard to Walker, Walker does not disclose (i), particularly since it does not teach detecting whether a pair of CE interfaces allocated to said VPN and belonging to two PE devices correspond to a common VLAN identifier (VLAN is a notion which is totally absent from Walker).

Walker does not disclose (ii), either, because the virtual circuit of Walker is not meant to forward frames including a common VLAN identifier (no VLAN identifier being used in Walker).

Turning now to Goodwin, this piece of prior art discloses an inter-switch VLAN advertisement protocol called VAP. According to this protocol, the VLAN membership databases stored on a switch may be synchronized with other switches in the network.

In this way, a distant endstation connected to a distant switch (e.g. the endstation B connected to the switch 186 in Fig.3) can have its VLAN membership 10 updated in

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the database of a local switch (e.g. the switch 182 in Fig.3), through advertisement between the switches (paragraph [0044]).

But, according to Goodwin, the distant switch connecting the distant endstation knows that this distant endstation belongs to VLAN 10, as it is contained in its database from the beginning (paragraph [0044] or paragraph [0049]). This provisioning may be entered manually, for instance.

Thus, the learning by Goodwin only relates to VLAN membership propagated over the backbone. But a switch always knows the VLAN membership of the endstations connected to it. In other words, no learning of VLAN membership of an endstation to its connecting switch is disclosed or suggested by Goodwin.

In contrast, the learning of the present invention relates to a correspondence between a CE interface (all the more allocated to a given VPN) which has received a tagged frame previously from a (local) CE device and a VLAN identifier included in said tagged frame. When transposed onto Fig.2 of Goodwin, this would mean that the learned correspondence would be, e.g., between the interface between the switch 156 and the endstation B and a VLAN identifier included in a tagged frame previously received from the endstation B by the switch 156. This is not disclosed or even suggested by Goodwin.

Thus, Goodwin does not teach the learning claimed in claim 20 of the present invention.

Moreover, just like Jain and Walker, Goodwin also does not disclose the features (i) and (ii) mentioned above.

In conclusion, even when their teachings are combined, Jain, Walker and Goodwin do not disclose the subject-matter of claim 20 of the present application. The same applies to Claim 49 for the same reasons. Claims 21-33 and 50-58 are submitted to be allowable, as well, particularly since they depend on Claim 20 or 49 directly or indirectly.
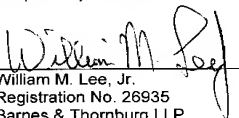
Also, the Examiner has spent much time and effort to try to read every claimed feature on the prior art. More and more prior art references are cited in an attempt to achieve this goal, even though combining so many references would not, without hindsight based upon the disclosure of the present application, be at all evident to one skilled in the art. It should also be noted that Jain, Walker and Goodwin deal with

different technologies (e.g. VLAN for Jain and Goodwin, but only local LAN for Walker, etc.) and they are also quite diverse from the actual field of the present invention (as an example, the word VPN is used is none of those references, and none of the devices identified by the Examiner are related to the conventional definition of PE devices or CE devices/interfaces as would be understood by one skilled in the art). For these reasons, and also because even such unrealistic and over-extensive combination would not lead to the claimed invention as explained above, it is respectfully requested that the application be now allowed.

The Examiner's further and favorable reconsideration of the application is urged.

February 15, 2008   Respectfully submitted,

William M. Lee, Jr.
Registration No. 26935
Barnes & Thornburg LLP
P.O. Box 2786
Chicago, Illinois 60690-2786
(312) 214-4800
(312) 759-5646 — Fax